

ABSTRACT

To provide a duplexer in which not only an electric power resistance is superior but also an attenuation outside a pass band and an isolation characteristic can be set sufficiently large.

A duplexer 1 includes transmission-side and reception-side band filters 1A and 1B respectively constructed by connecting a plurality of surface acoustic wave resonators to form a ladder circuit, in which: each of the surface acoustic wave resonator includes a 47° to 58° rotated, Y-cut, X-propagating LiNbO_3 substrate and an IDT electrode 12 formed on the LiNbO_3 substrate; the IDT electrode includes a Ti foundation electrode layer 12a formed on the LiNbO_3 substrate formed through epitaxial growth and an Al electrode layer 12b formed through epitaxial growth on the Ti foundation electrode layer; and a (111) face of the Al electrode layer, a (001) face or (100) face of the Ti foundation electrode layer, and a (001) face of the LiNbO_3 substrate are aligned parallel.